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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,517	07/28/2003	Seiji Funaba	NEKO 20.511	4289
26304	7590	11/10/2005	EXAMINER MAI, SON LUU	
KATTEN MUCHIN ROSENMAN LLP 575 MADISON AVENUE NEW YORK, NY 10022-2585			ART UNIT 2827	PAPER NUMBER

DATE MAILED: 11/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/628,517

Applicant(s)

FUNABA ET AL.

Examiner

Son L. Mai

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 August 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-44 is/are pending in the application.  
4a) Of the above claim(s) 5,6,12-14,16,20 and 22-24 is/are withdrawn from consideration.  
5) ☒ Claim(s) 9 and 10 is/are allowed.  
6) ☒ Claim(s) 1-4,11,18 and 19 is/are rejected.  
7) ☒ Claim(s) 7,8,15,17,21 and 25-44 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. The papers filed 08-31-05 has been received and entered. Accordingly, claims 1-44 remain pending: claims 5-6, 12-14, 16, 20, 22-24 have been withdrawn; claims 1-4, 7-11, 15, 17-19, 21, 25-44 are present for examination.

### ***Specification***

2. The disclosure is objected to because of the following informalities: On page 17, in line 17, "sutbless" should read ----stubless--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4, 11, and 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Moriarty et al. (U.S. Patent 6,661,690) hereinafter referred to as "Moriarty".

Regarding claim 1, Moriarty teaches a memory module (figures 6 and 7) comprising a plurality of memory devices (28), which share a bus line (104), on a board (102), wherein the bus line connects terminals of said plurality of memory devices in a stubless configuration (that is, in a single stroke, using a strip line) and an end of said bus line is terminated (by resistor 116).

Regarding claim 2, Moriarty teaches at least a part of said bus line is a strip line (104).

Regarding claim 3, Moriarty teaches that an effective characteristic impedance of said bus line is matched with a characteristic impedance of a line on a motherboard on which said memory module is mounted (see column 3, lines 19-23).

Regarding claim 4, Moriarty shows in figure 7, a termination circuit (116) is included and terminates the end of the bus line (104).

Regarding claim 11, Moriarty shows in figure 7, signal terminals of said plurality of memory devices connected in the stubless configuration are connected at one point on the bus.

Regarding claim 18, Moriarty shows in figure 7, the memory module is configured as a multi-chip module.

Regarding claim 19, Moriarty shows in figure 8A and 8B, the board of the memory module is divided into a plurality of boards (142, 144) and the plurality of boards are each connected by inter-board connection means (see column 10, lines 29-40).

***Allowable Subject Matter***

5. Claims 9-10 are allowed.
6. Claims 7, 8, 15, 17, 21 and 25-44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

7. Applicant's arguments filed 08-31-05 have been fully considered but they are not persuasive. Applicants argued that Moriarty does not disclose, or even suggest, the feature of memory devices connected to a bus line in a stubless configuration.

Applicants also argued that Moriarty apparently discloses a circuit arrangement in which the wiring runs along the long side of the memory module (i.e., in parallel with the connector), and the terminals are disposed on one side or both sides of the module.

In response, the Examiner would like to point out that Moriarty does teach memory devices connected to a bus line in a stubless configuration. In figures 6 and 7, Moriarty illustrates memory devices 28 connected to a bus line 104 in a stubless configuration. The stubless configuration is understood as "in a single stroke". See page 11, lines 4-6 of the instant application. With that definition, Moriarty's configuration in figures 6 and 7 is a stubless configuration. Secondly, in regard to the argument that the present invention provides a wiring arrangement that runs along (in parallel with) the short side of the module (i.e., at right angles with the connector), and the terminals are disposed on both (upper and rear) surfaces of the module. These limitations are not included in the claims. Therefore it is irrelevant if Moriarty teaches these limitations or not. For the above reasons, claims 1-4, 11, and 18-19 are unpatentable as anticipated by Moriarty.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son L. Mai whose telephone number is 571-272-1786. The examiner can normally be reached on 8am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**SON L. MAI**  
**PRIMARY EXAMINER**